REMARKS

Rejections under 35 U.S.C.§112, 2nd paragraph

Claims 1-21 and 23 remain rejected under 35 U.S.C.§112, 2nd paragraph as being indefinite with regard to "the sequence of the extendible fragment is determined by the sequence of the template nucleic acid." Applicants traverse this rejection and withdrawal thereof is respectfully requested.

The Examiner states that it is unclear what is meant by the phrase "sequence of the extendible fragment is determined by the sequence of the template nucleic acid." Applicants believe that the meaning of this phrase would be readily apparent to one skilled in the art upon reading the claims and specification. One of ordinary skill in the art would appreciate upon reading the specification that it is implicit in the specification that the 3' sequence of the extendible fragment is determined by the sequence of the template nucleic acid.

If any primer is extended by a DNA or RNA polymerase on a template, newly synthesised DNA is added onto the end of the primer, thereby extending the same. The sequence of the newly synthesised DNA or RNA at the 3 end of the primer is thusly complementary to the template and determined by the sequence of the template. This fact would be known to one of ordinary skill in the art.

Thus, the phrase in question is clear and definite as written. If, however, the Examiner has some alternative wording for the claim, which she feels more clearly states the same thing, Applicants request that she contact the undersigned to discuss this issue. Otherwise, withdrawal of the rejection is respectfully requested.

Rejections under 35 U.S.C.§103

Claims 1-21 and 23 have been newly rejected as being obvious over the combined teachings of Dianov et al. and McCarthy '176. While both of these references have been previously relied upon, even in combination, the Examiner newly combines the references for the instant rejection.

Dianov et al. is relied on, as before, for teaching cleavage of a nucleic acid to generate of an extendible 3'-OH end. The Examiner notes Applicants' position that Dianov et al. fails to teach that the specificity of the primers generated with the 3'-OH end is determined by the target nucleic acid.

McCarthy et al. is relied on for teaching a method of determining multiple mutations through the introduction of a modified based, followed by cleavage to generate an abasic sight. The Examiner asserts that it would be obvious to use the enzymatic cleavage mechanism of Dianov et al. to generate a 3'-OH extendable fragment in the method of McCarthy et al.

Applicants traverse this rejection and withdrawal thereof is respectfully requested. Applicants take the position that the Examiner has missed key differences between the instant invention and the prior art. For example, on page 4 of the outstanding Office Action the Examiner states:

> "One of ordinary skill in the art would have been motivated by applying enzymatic extension of the DNA molecule on a template nucleic acid to introduce a modified base as taught by McCarthy *et al.* because the method of McCarthy can be used to detect multiple known mutations by using a single enzyme and a single process. It would have been prima facie obvious to apply enzymatic extension of the DNA molecule on a template nucleic acid to introduce a modified base for characterizing nucleic acid sequence".

Applicants believe this statement indicates that the Examiner is overlooking key features of the invention, which render the invention unobvious over the prior art. In particular, what is stated as being *prima facie*, i.e. "to apply enzymatic extension of the DNA molecule on a template nucleic acid to introduce a modified base for characterizing nucleic acid sequence" is not the subject of the present application.

The enzymatic extension of the DNA molecule generated in steps (i) and (ii) on a template nucleic acid is not concerned with introduction of a modified base as inferred by the Examiner. The instant invention is concerned with whether or not the DNA can be extended on a selected template thus allowing characterization of the 3' end of the DNA molecule generated in steps (i) and (ii).

While the Examiner states that one of ordinary skill in the art would have been motivated

by applying enzymatic extension of the DNA molecule on a template nucleic acid to introduce a modified base as taught by McCarthy et al., Applicants believe that it would not have been obvious to cleave this extended DNA at the site of modified base introduction and to characterize its 3' end by determining if the newly generated 3' end can be extended / support new DNA synthesis on a selected template. As such, the instant invention is not obvious over Dianov et al. combined with McCarthy '176 and withdrawal of the rejection is respectfully requested.

If the Examiner has any questions concerning this application, the Examiner is requested to contact MaryAnne Armstrong, Ph.D., Reg. No. 40,069 at the telephone number of (703) 205-8000.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

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Respectfully submitted,

By _____
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